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### ORCHIDACEAE PERUVIANAE VII

BY

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IN THE following article, which is the seventh in the series concerning Peruvian orchids, there are descriptions of fourteen new species, with accompanying plates, together with several new varieties and nomenclatorial notes.

The sequence of the species follows the system proposed by R. Schlechter in *Notizblatt des Botanischen Gartens und Museums Berlin-Dahlem* 9 (1926) 563-591.

#### **Pogonia Vargasii** *C. Schweinfurth sp. nov.*

Herba terrestris, stricta. Caulis cum vagina unica subtus et foliis paucis remotis supra ornatus. Folia oblongo-lanceolata vel lineari-lanceolata, acuta vel acuminata, sessilia, amplexicaulia. Flores saepissime duo, remoti, pro genere parvi, punicei. Sepalum dorsale lanceolato-oblongum, acutum. Sepala lateralialia similia sed angustiora, anguste elliptico-oblonga. Petala oblongo-elliptica vel anguste obovato-oblonga, sepalis breviora sed multo latiora. Labellum in circuitu elliptico-ovatum vel oblongo-ovatum, supra trilobatum, cum lobo terminali parvo et rotundato-obovato; discus fascia mediana lata multipapillosa percursus. Columna segmentis ceteris brevior.

Plant terrestrial, strict, more or less slender. Root solitary, tuberous, straight, lanuginose, about 8.2 cm. or less long, sometimes with small lateral rootlets. Stem

about 69 cm. or less tall, glabrous, with a small close tubular sheath in the lower portion and with two to four remote leaves above. Leaves strict, oblong-lanceolate or linear-lanceolate, acute or acuminate, sessile with an amplexicaul base, up to 10 cm. long and 1.3 cm. wide (the uppermost blade). Flowers one to three (commonly two), rather small for the genus, pink, about 5 cm. or less apart, subtended by a strict lanceolate bract which is similar to the leaves but shorter and often slightly broader. Mature ovary cylindric, about 4.5 cm. long. Dorsal sepal lanceolate-oblong, acute, about 3.6 cm. long, 7.5–8 mm. wide. Lateral sepals similar to the dorsal sepal, narrowly elliptic-oblong or lanceolate-oblong, acute and minutely apiculate, lightly oblique, about 3.4 cm. long, 6.2–7.2 mm. wide. Petals oblong-elliptic or narrowly obovate-oblong, subacute, with irregular anterior margins, about 3.3 cm. long, 1.1–1.3 cm. wide. Lip sharply 3-lobed near the apex, elliptic-ovate or oblong-ovate in outline, rounded at base with a minute gland on each side within, about 3.3 cm. long, 1.35–1.6 cm. wide near or above the middle; lower portion relatively large, ovate-oblong or subquadrate-oblong, terminating on each side in a triangular spreading subacute apex; mid-lobe relatively small, suborbicular-obovate, retuse or rounded at the apex, with irregularly erose-dentate margins, 6–7.5 mm. long, about 7 mm. wide; disc with a broad band of more or less papillose ridges extending from the base nearly to the apex and narrowing above to a point. Column including the rigidly attached anther about 2.25 cm. high at the back, linear-oblong and sulcate when viewed from the front.

This species is apparently similar to several Brazilian *Pogonias* of Section *Cleisthes*, especially to *Pogonia revoluta* Rodr., which has much broader leaves, and flowers about twice as large. The flowers seem to be quite like



those of *P. fragrans* Schltr., but they are fewer in number and are scarcely more than half as large.

Cuzco: Prov. of Convención, Sahuayaco-Cascarillayoc, at 1700 meters altitude, on grassy slopes, January 17, 1947, *C. Vargas* 6306 (TYPE in Herb. Ames No. 63446); Prov. of Urubamba, Tuncapata, Sta. Rita, on open grassy slopes, at 2500 meters altitude, March 28, 1942, *C. Vargas* 2686.

PUNO: Prov. of Sandia, Sto. Domingo area, at 1550 meters altitude, flowers red tinged with blue and having slight agreeable odor, February 12, 1940, *D. McCarroll* 102. The flowers in this collection are apparently in bud and are notably smaller than normal.

### ***Altensteinia elliptica* C. Schweinfurth sp. nov.**

Herba parva, saxicola. Folia plura, prope caulis basim rosulata, oblongo-elliptica, acuta vel subacuta. Caulis vaginis pluribus laxis imbricatis tectus. Racemus dense multiflorus. Flores parvi, labello excepto membranacei. Sepala petalaeque patentia vel reflexa. Sepalum dorsale elliptico-lanceolatum, subacutum vel obtusum, dorso pubescens. Sepala lateralia similia, oblique elliptico-lanceolata, complicato-acuta. Petala oblanceolato-lineararia, obliqua, subacuta, subglabra. Labellum carnosum, erectum, tubulari-concavum, vi explanatum suborbiculare, dorso minute pustulatum. Columna clavata.

Plant low, about 16 cm. high. Roots fascicled, tuberous, short, numerous. Leaves four or five, clustered near the base and surrounded by several imbricating sheaths, oblong-elliptic, acute or subacute, narrowed to a broad sheathing base, up to about 8.5 cm. long and 2 cm. wide. Stem up to the inflorescence about 10.5 cm. high, entirely concealed by several loose imbricating sheaths. Inflorescence racemose, densely many-flowered, with the rachis lanuginose. Floral bracts ovate, acute or acuminate, concave, scarious, sparingly ciliate, shorter than the flowers. Flowers small, whitish green, membranaceous except the lip. Dorsal sepal elliptic-lanceolate, subacute to obtuse, dorsally pubescent, 1-nerved with

two short lateral nerves, about 7.5 mm. long and 2.9 mm. wide. Lateral sepals similar, obliquely elliptic-lanceolate, complicate-acute, 2-nerved. Petals obliquely oblanceolate-linear, subacute, glabrous or very sparingly ciliate, 1-nerved, about 7.5 mm. long and 1 mm. wide. Lip fleshy, erect, tubular-concave, simple, about 10 mm. long, about 10 mm. wide when forcibly expanded, broadly rounded, minutely erose-fimbriate, dorsally minutely pustulose. Column clavate from a slender base, about 5.5 mm. high. Ovary densely pubescent.

This species appears to be allied to *Altensteinia longispicata* C. Schweinf., but differs markedly in its small, relatively dwarf stature, short oblong-elliptic leaves and glabrous petals.

APURIMAC: Prov. of Grau, slopes of Seccecka, on rocks at 3850 meters altitude, March 4, 1946, C. Vargas 5771 (TYPE in Herb. Ames No. 63139).

**Cranichis calva** (Kränzl.) Schlechter var. **Vargasii** C. Schweinfurth var. nov.

Herba speciei typicae simillima sed sepalis minoribus atque petalis valde latioribus obovato-spathulatis differt.

Plant about 31 cm. tall. Basal leaves one or two, long-petioled; lamina obliquely elliptic or ovate-elliptic, acute, broadly cuneate below, up to 9 cm. long and 3.6 cm. wide. Stem glabrous. Peduncle about 20 cm. high, provided below with two remote small elliptic leaves and above with a small narrow bract. Raceme about 10 cm. long, rather densely many-flowered. Flowers whitish yellow, somewhat smaller than in the typical plant. Dorsal sepal lanceolate-elliptic, concave, obtuse or subacute, about 3.7 mm. long. Lateral sepals obliquely oval-ovate, subacute or obtuse, about 3.9 mm. long and 2.8 mm. wide. Petals spatulate-obovate, broadly rounded at the apex, about 3.2 mm. long and 1.75 mm. wide. Lip similar to that of the type, deeply concave, condu-



plicate in the dried plant when seen from the side, about 3.5–3.8 mm. long.

This concept differs from the type in having somewhat smaller flowers, relatively broader lateral sepals and very dissimilar petals.

Cuzco: Prov. of Convención, Hda. Potrero, Sapan Sachayocce at 2200 meters altitude, in humus of dense forest, March 5, 1942, *C. Vargas* 2558 (TYPE in Herb. Ames No. 65623).

***Ponthieva bicornuta* C. Schweinfurth sp. nov.**

Herba terrestris, pro genere major. Folia maxima pro parte basalia, rosulata, elliptica vel anguste obovata, acuta, basi in petiolum sulcatum sensim angustata. Pedunculus elatus. Racemus laxe multiflorus. Flores medioeres, albi et virides. Sepalum dorsale ellipticum, subacutum. Sepala lateralía majora, oblique oblongo-ovata, obtusa, margine anteriore late rotundato. Petala columnae adnata, oblongo-semihastata, obtusa, anguste unguiculata. Labelli unguis a latere visus semiorbicularis, antice bicornutus, columnae adnatus; lamina erecta, concavo-conduplicata, expansa in circuitu ovato-subquadrata, apice trilobata, cum lobo terminali parvo, orbiculari-obovato. Columna crassa.

Plant terrestrial, suberect, about 48 cm. or less high. Roots fibrous, lanuginose. Leaves three or four, mostly rosulate and subbasal; basal leaves three, elliptic to narrowly obovate, acute or short-acuminate, more or less gradually narrowed into sulcate basally imbricating petioles, about 18 cm. or less long including the petiole, 1.2–3.2 cm. wide; leaf above the basal cluster much smaller than the others, lanceolate-elliptic, acute, with a long sheathing base. Peduncle about 24–27.5 cm. long from the basal cluster of leaves up to the raceme, glabrous below, glandular-pubescent above, provided with three to five close sheaths which are larger and tubular below and sessile near the inflorescence. Raceme loosely

many-flowered, with the densely glandular-pubescent rachis about 14–20 cm. long. Floral bracts ovate-lanceolate, much shorter than the pedicellate ovary which they clasp, up to 9 mm. long. Pedicellate ovary very slender when young, clavate-ellipsoid in course of development. Flowers nearly glabrous, white with green outer surface of sepals and about seven green lines on inner surface of petals. Dorsal sepal elliptic, subacute, 3-nerved, about 6.3 mm. long and 2.7 mm. wide. Lateral sepals obliquely oblong-ovate, broadly rounded on the anterior margin, obtuse, about 7 mm. long across the posterior margin and 4 mm. wide, 4- to 5-nerved. Petals adnate to the lower third of the column, oblong-semihastate, obtuse, about 6 mm. long and 2.6 mm. wide across the round-dilated anterior part, about 4-nerved with the narrow cuneate claw about 1.75 mm. long. Lip adnate to the lower third of the column by a stout claw which is semi-circular when viewed from the side, erect and parallel to the column; claw mostly occupied by a complanate semiorbicular callus and terminated by a pair of linear spreading gently recurved horns; lamina concave-conuplicate in natural position, when expanded ovate-subquadrate, subcordate at base, sharply 3-lobed in front with a small suborbicular-obovate apically concave lobule, about 4.8 mm. long and 4 mm. wide. Column stout, about 4 mm. high, terminating in a sharp erect process.

This species appears to be allied to *Ponthieva oligoneura* Schltr., but is much larger throughout. Furthermore, the pair of linear horns at the apex of the claw of the lip is extraordinary.

JUNÍN: Prov. of Tarma, Agua Dulce, at 2400 meters altitude, in highland dwarf forest, "leaf very soft and weak, stem pale brown," March 12, 1948, *F. Woytkowski 35457* (TYPE in Herb. Ames No. 65450; ISOTYPES in Herb. Univ. Calif. and in Herb. Mo. Bot. Gard.).



**Spiranthes Pavonii** Reichenbach flius in Bonpl. 4 (1856) 211.

*Spiranthes matucanensis* Kränzlin in Engler Bot. Jahrb. 54 (1916) Beibl. 117, p. 16.

*Spiranthes pachyrrhiza* Kränzlin in Engler Bot. Jahrb. 54 (1916) Beibl. 117, p. 16.

*Pelexia matucanensis* Schlechter in Beih. Bot. Centralbl. 37 (1920) Abt. 2, p. 410.

*Sarcoglottis Pavonii* Schlechter in Beih. Bot. Centralbl. 37 (1920) Abt. 2, p. 419.

Judging from the excellent description of *Spiranthes Pavonii* (l.c.), supplemented by analytical drawings of this concept from the Reichenbach Herbarium in Vienna, it is evident that we should include in this variable species the plants described as *Spiranthes matucanensis* and *S. pachyrrhiza* which were considered to be synonymous by Schlechter (in Beih. Bot. Centralbl. 37 (1920) Abt. 2, p. 410).

The analytical drawing of *Spiranthes Pavonii* shows a short compact raceme (of somewhat immature flowers) which is almost an exact counterpart of the inflorescence of *S. pachyrrhiza* as exemplified by the two isotypes examined. *S. matucanensis* is shown by a photograph of the type in the Ames Herbarium to have a rather loose and relatively elongate raceme due to the fact that the flowers appear to be somewhat advanced by reason of their swollen ovaries. It is interesting to note in this connection that the spike of *S. Pavonii* is described as at first quaquaversal and then secund in anthesis.

A further detail of similarity is that all of these concepts actually have petals with a subacute or abruptly acute apex, although in both *S. matucanensis* and *S. pachyrrhiza* the petals were described as obtuse.

**Spiranthes Weberbaueri** Kränzl. var. **aurantiaca** C. Schweinfurth var. nov.

Herba variabilis, floribus aurantiacis (non viridibus), labelli apice maxima pro parte late rotundato (non retuso) atque columna antice glabra (non longe pilosa) a specie differt.

Plant variable, slender or stout, 15–75 cm. tall. Leaves usually present, basal, rosulate, more or less distinctly petioled; lamina narrowly oblong to elliptic, more or less acute, about 18 cm. or less long, up to 3.6 cm. wide. Stem finely pubescent especially above (rarely subglabrous below), with several tubular membranaceous sheaths. Raceme short to elongate, several- (10) to many-flowered, with orange to dull brick-red flowers. Pedicellate ovary and sepals densely glandular-pubescent without. Dorsal sepal oblanceolate-linear, acute at the lightly cucullate apex, about 1.2–1.6 cm. long, 2.4–3.5 mm. wide above. Lateral sepals connate into a subgibbous sac below, with the recurved free portion obliquely linear-oblanceolate and about as long as the dorsal sepal but narrower. Petals strongly adnate to the dorsal sepal and somewhat smaller, narrowly spatulate-oblanceolate, acute to rounded at the apex. Lip strongly adnate to the column nearly up to its apex, about 1.3–2 cm. long and 5.5–7 mm. wide above, from the linear channelled basal portion, which is callose-thickened on each side of the somewhat broader base, dilated into an obovate apex traversed by a thickened mid-nerve, the upper portion being reflexed, broadly rounded and irregularly crenate-dentate. Column slender, glabrous, lightly arcuate above, extended into a prominent foot, the free part about 7.5–12 mm. long.

Cuzco: Crapeza Valley, Piquillacta, at 3150 meters altitude, November 3, 1928, *F. L. Herrera 2181*; Ollantaytambo, in a canyon, at about 3000 meters altitude, flowers antimony yellow, April 24, 1915, *O. F. Cook & G. B. Gilbert 281*; Prov. of Cuzco, Pisac, on gravelly slopes, at 3100 meters altitude, perianth orange, November 8, 1942, *C. Vargas 2983*; Prov. of Urubamba, Piri, at 2800 meters



altitude, on heath-covered slopes, perianth orange, March 22, 1946, *C. Vargas 5935* (TYPE in Herb. Ames No. 63451).

HUÁNUCO: Huacachi, near Muña, at edge of shady thicket, at about 2000 meters altitude, May 20–June 1, 1923, *J. Francis Macbride 4076* (the flowers of this collection are small).

The following collection, tentatively identified as this variety, which is vegetatively incomplete and has small flowers, bears the accompanying data:

APURIMAC: near Socellaccasa Pass, at 3700 meters altitude, in grass and among rocks in full sun, "average 40 cm. high; dull apricot-yellow flower, brown pencilling; tuberous roots," November 10, 1935, *James West 3824*.

### ***Stelis affinis* C. Schweinfurth sp. nov.**

Herba pusilla, caespitosa vel breviter rhizomatosa, saxicola. Caules aggregati, numerosi, graciles, vaginis tubulatis tribus ornati. Folium erectum, inconspicue petiolatum; lamina anguste elliptica vel oblongo-oblan-ceolata, acuta, infra sensim cuneata, chartacea. Racemi singuli vel tres, folium conspicue superantes, multiflori, super densiflori. Flores perparvi, membranacei. Sepala trinervia. Sepalum dorsale ovatum, acutum. Sepala lateralialia paulo breviora et latiora, suborbiculari-ovata, leviter obliqua. Petala multo minora, transverse ovalia, supra incrassata et late rotundata. Labellum petalis circiter aequilongum sed angustius, transverse ovatum, apice late rotundatum; discus carina transversa bilobata ornatus. Columna generis.

Plant small, slender, caespitose or with an abbreviated rhizome, growing on cliffs. Roots fibrous, filiform, glabrous, very numerous. Stems crowded, short, slender, up to 6 cm. long, concealed by about three close tubular evanescent sheaths which become longer upward. Leaf erect or spreading, inconspicuously petioled, 3.1–4.4 cm. long; lamina narrowly elliptic or oblong-oblan-ceolate, acute with a minutely tridenticulate apex, gradually cu-

neate below, marginate, chartaceous, with the mid-nerve prominently exerted beneath, about 2.3–3.8 cm. long and 6–9 mm. wide. Racemes one to three, erect or nearly so, conspicuously surpassing the leaf, up to 10 cm. long, many-flowered, densely flowered above. Floral bracts small, shallowly infundibuliform, acute or apiculate. Flowers very small, membranaceous, dull yellow, glabrous. Sepals connate at the base, prominently 3-nerved. Dorsal sepal ovate, acute, about 2.5 mm. long and 1.5 mm. wide. Lateral sepals suborbicular-ovate, lightly oblique, subacute, about 2.1 mm. long and 1.75 mm. wide. Petals much smaller, transversely oval, broadly rounded and fleshy-thickened above, 3-nerved, about 0.5 mm. long and 1 mm. wide. Lip about equally long with the petals, transversely ovate, subcordate on each side of the sessile base, broadly rounded in front, about 0.5 mm. or more long and 0.75 mm. wide; disc with a prominent fleshy transverse bilobed keel near the base. Column minute, characteristic of the genus.

This species resembles the Central American *Stelis parvula* Lindl., but differs in having less conspicuous floral bracts, a narrower dorsal sepal and a smaller lip.

PUNO: Prov. of Carabaya, Ollachea (abajo), at 2500 meters altitude, December 30, 1947, *C. Vargas 6947* (TYPE in Herb. Ames No. 65205).

***Stelis ascensor* C. Schweinfurth sp. nov.**

Herba mediocris, rhizomatosa. Rhizoma adscendens, vaginis tubulatis obtectum. Caules graciles, valde adscendentes, vaginis tubulatis tribus tecti. Folium petiolatum; lamina saepissime anguste elliptico-oblonga, apice acuta, infra cuneata; petiolus gracilis. Racemi unici (raro bini), folium multo superantes, subdense multiflori. Flores parvi, bilabiati, membranacei. Sepala trinervia. Sepalum dorsale elliptico-ovatum, subacutum. Sepala



lateralia profunde connata, quam sepalum dorsale breviora et latiora, suborbiculari-ovata. Petala multo minora, transverse ovalia, apice leviter incrassata et late rotundata. Labellum petalis subaequale, late triangulari-ovatum, incrassatum. Columna generis.

Plant medium-sized, slender. Roots fibrous, filiform, glabrous, long. Rhizome ascending, slender, concealed by tubular evanescent sheaths, bearing remote scattered roots throughout. Stems strongly ascending, subapproximate to 1.5 cm. apart, slender, about 7.6–9 cm. long, with three rather loose tubular sheaths of which the uppermost is largest and separated from the others. Leaf solitary, petioled, up to 9.4 cm. long; lamina narrowly elliptic-oblong (rarely oblong), 6–8 cm. long, 9–13 mm. wide, acute with a minutely tridenticulate apex, cuneate below, chartaceous, with the mid-nerve rather prominently exerted beneath. Racemes solitary or rarely two, much surpassing the leaf, subdensely many-flowered (looser below), suberect to flexuous, with the flowers secund in anthesis, about 13–17 cm. long. Floral bracts small, infundibuliform, spreading, acute or apiculate. Flowers small, membranaceous, bilabiate, glabrous. Sepals 3-nerved, connate at base. Dorsal sepal elliptic-ovate, subacute, concave, about 3.5 mm. long and 2.25 mm. wide when expanded. Lateral sepals connate to the middle or above, deeply concave, suborbicular-ovate, slightly oblique, subacute to obtuse, about 2.75 mm. long and 2.5 mm. wide when expanded. Petals much smaller than the sepals, transversely oval, 3-nerved, broadly rounded and somewhat fleshy-thickened above, about 0.6 mm. long and 1 mm. or more wide. Lip subequaling the petals, broadly triangular-ovate, concave, subacute or obtuse, truncate-subcordate at base, about 0.75 mm. long and 1 mm. wide; disc mostly occupied by a fleshy thickening which is highest and convex (in profile) in the

center at the base. Column very small, dilated upward, characteristic of the genus.

This species appears to lack any close allies.

Cuzco: Prov. of Quispicanchis, Hda. Itio, Marcapata, at 2000 meters altitude, in sunny rocky places, flowers yellow-brown, January 27, 1943, *C. Vargas 3115* (TYPE in Herb. Ames No. 65215).

***Stelis attenuata* Lindley** Fol. Orch. *Stelis* (1858) 2, no. 7.

*Stelis Lindleyana* Cogn. var. *carosior* C. Schweinfurth in Bot. Mus. Leaflet. Harvard Univ. 10 (1942) 120.

On restudying this group, it appears more advisable to consider the concept described as *Stelis Lindleyana* var. *carosior* as a form of *S. attenuata*. The collection *Killip & Smith 24753* has markedly longer leaves than *S. attenuata*; the incomplete racemes are shorter than in the type, and, like the collection *Killip & Smith 23150*, which is also assigned to this species, has greenish instead of purple flowers.

***Stelis breviracema* C. Schweinfurth** *sp. nov.*

Herba mediocris, epiphytica, subcaespitosa. Rhizoma breve ut videtur. Caules approximati, pergraciles, unifoliati, vaginis arctissimis tubulatis tecti. Folium longe petiolatum; lamina anguste elliptica, acuta, infra cuneata; petiolus gracilis. Racemi bini, quam folium breviores, laxe pluri- vel multiflori. Flores parvi, glabri, membranacei. Sepala basi connata, ovata, trinervia; sepalum dorsale acutum; sepala lateraliter rotundato-ovata, paulo breviora et latiora, obtusa vel subacuta. Petala multo minora, rhombica, apice valde carnososa, uninervia. Labelum petalis subaequale, ovatum, apice obtusum vel rotundatum, basi cordatum; discus callo carnososo sulcato occupatus. Columna parva, supra dilatata.

Plant medium-sized, epiphytic, subcaespitose, about



18.5 cm. or less high. Roots fibrous, filiform, glabrous, very numerous. Rhizome abbreviated (incomplete in our specimen). Stems caespitose, slender, 1-leaved at the apex, about 4.7–9.5 cm. long, provided with two or three very close tubular sheaths of which the uppermost is elongate and separated from the other sheaths. Leaf erect-ascending, long-petioled, 5.7–10.3 cm. long; lamina narrowly elliptic, acute with a sharply tridenticulate apex, cuneate below, chartaceous, long-petioled, about 4.5–7 cm. long, 9–15 mm. wide; petiole slender, channelled, up to 2.5 cm. long. Racemes apparently always two to each stem, axillary, more or less shorter than the leaf, erect to diffuse, loosely several- to many-flowered, about 8.6 cm. or less long, subtended by a long slender long-acuminate spathe. Floral bracts small, infundibuliform, acute or apiculate. Flowers small, glabrous, membranaceous. Sepals connate near the base, concave, 3-nerved. Dorsal sepal elliptic-ovate, acute, about 3 mm. long and 1.6–1.9 mm. wide. Lateral sepals round-ovate, obtuse to subacute, about 2.5 mm. long and 1.75–2 mm. wide. Petals much smaller than the sepals, rhombic, fleshy-thickened above, strongly obtuse or rounded, about 0.75 mm. long and subequally wide, 1-nerved. Lip about equaling the petals, ovate, cordate at base, rounded at the apex, about 0.75–0.9 mm. long and 0.6–0.75 mm. wide; disc mostly occupied by a large fleshy sulcate thickening. Column small, dilated above, a little shorter than the petals.

This species is apparently allied to the Venezuelan *Stelis philargyryus* Reichb.f., but lacks the apiculate sepals and tridentate lip of that species.

Cuzco: Prov. of Paucartambo, "laderas de Pillahuata, ceja de la montaña," at 3000 meters altitude, epiphytic in rain-forest, perianth yellow, October 12, 1943, *C. Vargas 3665* (TYPE in Herb. Ames No. 65208).

**Stelis curvicarina** C. Schweinfurth *sp. nov.*

Herba mediocris, caespitosa, gracilis. Caules approximati, graciles, vaginis tubulatis tribus obtecti. Folium unicum, suberectum, petiolatum; lamina anguste oblonga vel elliptico-oblonga, subacuta, basi cuneata, coriacea. Racemi unici vel bini, folium valde superantes, erecti vel suberecti, dense vel subdense multiflori. Flores parvi, distichi, bilabiati. Sepala trinervia, membranacea. Sepalum dorsale elliptico-ovatum, subacutum. Sepala lateralibus plusminusve connata, oblique suborbiculari-ovata, sepalo dorsali multo breviora, valde concava. Petala multo minora, transversa, semiorbiculari-ovata, antice incrassata et late rotundata. Labellum in circuitu suborbiculari-ovatum, leviter trilobatum, apice rotundatum; lobi laterales parvi, semiobovati; lobus medius comparate magnus, suborbicularis; discus prope basim cum carina transversa arcuata. Columna minuta.

Plant medium-sized, slender, caespitose, up to 27.5 cm. tall. Roots fibrous, filiform, glabrous. Stems approximate, slender, about 6 cm. long (sterile stems shorter) concealed by three close tubular evanescent sheaths of which the uppermost is much the longest. Leaf solitary, erect or ascending, shortly petioled, about 7 cm. long; lamina narrowly oblong or elliptic-oblong, subacute with a minutely tridenticulate apex, cuneate below, up to 5.8 cm. long and 1 cm. wide, coriaceous, with the mid-nerve more or less exerted beneath. Racemes one or two, much surpassing the leaf, erect or suberect, densely or subdensely many-flowered (looser near the base), up to 20 cm. long. Floral bracts small, shallowly infundibuliform, spreading, obtuse and apiculate. Flowers small, distichous, bilabiate, glabrous, with widely spreading sepals. Sepals 3-nerved, membranaceous. Dorsal sepal elliptic-ovate, subacute, lightly concave, somewhat connate with the lateral sepals at the



base, about 3.9 mm. long and 2.25 mm. wide. Lateral sepals more or less connate (from one half nearly to the apex), deeply concave, very obliquely suborbicular-ovate with broadly rounded outer margins and nearly straight inner margins, subacute to obtuse, about 3 mm. long and 2 mm. or more wide when expanded. Petals much smaller than the sepals, transverse, semiorbicular-ovate, broadly rounded and fleshy-thickened above, lightly 3-nerved, about 0.6 mm. long and 0.75 mm. wide. Lip slightly longer than the petals, suborbicular-ovate in outline, broadly rounded in front, obscurely 3-lobed near the base, broadly cuneate at the sessile base when viewed from above, with the basal portion membranaceous and the anterior part rather fleshy, about 0.87 mm. long and subequally wide across the dilated basal portion; anterior portion suborbicular, concave; disc with a transverse fleshy arching keel separating the large anterior part from the suborbicular basal dilation. Column minute, strongly dilated upward, deeply 3-lobed above.

This species is somewhat allied to *Stelis velutina* Lindl., but the sepals are smooth within and the lip is differently proportioned.

Cuzco: Prov. of Urubamba, Machupicchu, on rocks at 2100 meters altitude, flowers apparently yellowish, April 15, 1943, C. Vargas 3343 (TYPE in Herb. Ames No. 65212).

***Stelis dupliciformis* C. Schweinfurth sp. nov.**

Herba mediocris, epiphytica. Rhizoma conspicuum, vaginis tubulatis arcte obtectum. Caules bini ut videtur, vaginis duabus vel tribus ornati. Folium longe petiolatum; lamina lanceolato-elliptica, subacuta, infra valde cuneata. Racemi saepissime bini, folio breviores vel hunc paulo excedentes, supra dense multiflori. Flores pro genere magni, bilabiati. Sepalum dorsale ovatum, acutum, infra quinquenervium. Sepala lateralia in laminam valde concavam connata, quae sepalo dorsali paulo bre-

vior et latior, sepalum utrinque suborbiculari-ovatum. Petala multo minora, transverse rhombico-ovata, apice late rotundata et carnosae. Labellum petalis subaequale, ovatum, obtusum; discus callo transverso bilobato valde incrassato occupatus. Columna generis.

Plant medium-sized, epiphytic. Roots fibrous, filiform, glabrous, numerous. Rhizome prominent, concealed by close tubular imbricating sheaths. Stems obliquely ascending, produced from the rhizome in pairs apparently about 3 cm. apart in our specimen, about 12–14 cm. long, clothed with two or three tubular sheaths of which the uppermost is looser and much the largest. Leaf solitary, long-petioled, 10.6–13 cm. long, erect-ascending; lamina lanceolate-elliptic, subacute with a minutely tridenticulate apex, gradually cuneate below, chartaceous, with the mid-nerve prominently exerted beneath, about 8.5–10 cm. long and 2–3 cm. wide. Racemes two to each stem (rarely a short third one is present), shorter than or very slightly surpassing the leaf, suberect or spreading, many-flowered, densely flowered above and loosely flowered below, up to 15 cm. long, subtended by an inconspicuous conduplicate scarious spathe about 1.2 cm. long. Floral bracts shallowly infundibuliform, apiculate, widespreading. Flowers rather large for the genus, secund in anthesis, conspicuously bilabiate, dull reddish white. Sepals membranaceous, minutely cellular-pubescent within. Dorsal sepal ovate, acute, convex, shortly connate with the lateral sepals at the base, 3-nerved above and 5-nerved below the middle, about 6.1 mm. long, 3.5–4 mm. wide. Lateral sepals connate nearly to the apex into a deeply concave lamina, each one suborbicular-ovate, subacute, lightly oblique, 3- to 4-nerved, about 5.2 mm. long and 4.3 mm. wide. Petals much smaller, transversely rhombic-ovate, broadly rounded and fleshy-thickened above, 3-nerved, about 1.75



mm. long and 2 mm. wide. Lip subequalling the petals, ovate to rhombic-ovate, obtuse, with upcurved sides, about 1.25 mm. long and equally wide in natural position; disc mostly occupied by a large transverse fleshy deeply bilobed callus. Column minute, strongly dilated upward.

This species appears to be allied to *Stelis flacca* Reichb.f., but differs in having a prominent rhizome and a dissimilar lip.

Cuzco: Prov. of Quispicanchis, Cachubamba, Marcapata, at 2800 meters altitude, epiphyte in forest, December 12, 1943, C. Vargas 3816 (TYPE in Herb. Ames No. 65251).

***Stelis gracilispica* C. Schweinfurth sp. nov.**

Herba mediocris, gracilis, caespitosa. Caules numerosi, approximati, vaginis duabus vel quattuor tubulatis arctis tecti. Folium unicum, erectum, conspicue petiolatum; lamina elliptico-oblonga, acuta vel obtusa, infra cuneata. Racemi unici vel duo, folium saepissime valde superantes, dense multiflori. Flores perparvi, bilabiati, secundi, submembranacei. Sepala trinervia. Sepalum dorsale elliptico-ovatum, subacutum vel obtusum. Sepala lateralia in laminam valde concavam bidentatam connata, cum sepalo utroque quam sepalo dorsali paulo minore. Petala multo minora, transverse rhombico-suborbicularia. Labellum petalis minus, transverse obovato-rhombicum, callo transverso carnosio bilobato ornatum. Columna generis.

Plant medium-sized, slender, caespitose, about 23 cm. or less high. Roots fibrous, filiform, glabrous, very numerous. Stems numerous, approximate, suberect, slender, about 4-9 cm. high, clothed with two to four sheaths which are close tubular and maculate, the uppermost being separated and much the longest. Leaf solitary, erect, distinctly petioled, 6-7.2 cm. long; lamina elliptic-oblong (often narrowly so), acute to obtuse or rounded with a minutely tridenticulate apex, cuneate at base,

coriaceous, with the mid-nerve prominently exerted beneath, 3.8–5.7 cm. long, up to 1.2 cm. wide; petiole slender, channelled. Racemes one or two to a stem, erect or nearly so, usually much surpassing the leaf, slender, densely many-flowered, up to 18 cm. long. Flowers very small, strongly secund, yellow, submembranaceous, bilabiate, nodding. Dorsal sepal elliptic-ovate, subacute to obtuse, 3-nerved, lightly convex, shortly connate with the lateral sepals at the base, about 3 mm. long and 2 mm. wide. Lateral sepals connate into a deeply concave lamina which is bidentate at the tip; each sepal oval-ovate, subacute, 3-nerved, lightly oblique, about 2.25 mm. long and 1.75 mm. wide. Petals many times smaller than the sepals, transversely rhombic-suborbicular, broadly rounded at the apex, fleshy-thickened upward, concave, 3-nerved, about 0.6 mm. long and 1 mm. or more wide. Lip smaller than the petals, transversely obovate-rhombic, concave, obtuse, provided above the middle with a fleshy transverse bilobed callus, about 0.56 mm. long and 0.7 mm. wide. Column minute, strongly dilated upward.

This species is allied to the Central American *Stelis despectans* Schltr., but varies in having a very different lip.

HUÁNUCO: Carpish between Huánuco and Tingo María, at 2500–2800 meters altitude, March 2, 1947, *Ramón Ferreyra 1748* (TYPE in Herb. Ames No. 65281).

**Stelis Hallii** Lindl. var. **minor** C. Schweinfurth  
*var. nov.*

Herba caespitosa, pusilla, statura omnino minore et racemo non valde fractiflexo et petalis non trilobulatis a specie differt.

Plant caespitose, small, up to 9.5 cm. high. Stems crowded, abbreviated, about 3.5 cm. or less tall, entirely concealed by two or three close tubular imbricating

sheaths. Leaf oblanceolate or elliptic-oblanceolate, acute with a minutely tridenticulate apex, gradually long-narrowed into an indistinct petiole, up to 3.7 cm. long and 8 mm. wide. Inflorescences one or two to each stem, nearly twice as long as the leaf, loosely several-flowered, without a markedly fractiflex rachis. Flowers very small, pale green with a reddish flush. Sepals 3-nerved. Dorsal sepal round-ovate, about 2.5 mm. long and slightly broader. Lateral sepals distinctly smaller, oblique. Petals minute, transversely rhombic-semiorbicular, entire at the broadly rounded much-thickened apex. Lip slightly smaller than the petals, transversely rhombic-ovate, with a fleshy transverse callus across the middle, subobtusate at the broad apex, about 0.8 mm. long and 1 mm. wide.

JUNÍN: Prov. of Tarma, Utcuyacu, at 1800 meters altitude, on moss-covered rocks in forest, leaf thick, April 2, 1948, *F. Woytkowski* 37004 (TYPE in Herb. Univ. Calif.; ISOTYPES in Herb. Ames and in Herb. Mo. Bot. Gard.).

***Stelis punoensis* C. Schweinfurth sp. nov.**

Herba mediocris, saxicola. Rhizoma conspicuum, ascendens, crassum. Caules saepe bini, vaginis tubulatis tribus ornati. Folium plusminusve distincte petiolatum; lamina oblanceolata (raro elliptica), acuta, infra sensim cuneata. Racemi unici vel tres, maxima pro parte folium excedentes, laxe vel subdense pluri- vel multiflori. Flores comparate magni, purpurei ut videtur. Sepala trinervia. Sepalum dorsale ovatum vel elliptico-ovatum. Sepala lateralia multo breviora et latiora, plusminusve connata, suborbiculari-ovata. Petala multo minora, suborbicularia, supra valde carnosae. Labellum petalis minus, ovatum, obtusum; discus crassitudine basi bilobata antice concava occupatus. Columna perbrevis, sursum dilatata, apice lobo medio comparate magno.

Plant medium-sized, up to 26.5 cm. or more tall. Roots fibrous, filiform, glabrous, numerous. Rhizome



prominent, stout, ascending, closely enveloped by evanescent sheaths. Stems apparently in pairs, with a more or less decumbent base, 1-leaved at the apex, 3–13.5 cm. long, adorned with three tubular evanescent sheaths of which the uppermost is the largest. Leaf erect or ascending, more or less distinctly petioled, 4.7–9.6 cm. long, lamina oblanceolate (rarely elliptic), acute with a minutely tridenticulate apex, gradually narrowed below into a petioled base, about 3.5–8 cm. long, up to 1.8 cm. wide, coriaceous. Racemes one to three, longer or rarely slightly shorter than the leaf, erect or suberect, loosely to subdensely several- to many-flowered, about 15.5 cm. or less high, sometimes with a fractiflex rachis, subtended by a conduplicate acuminate spathe up to 1.7 cm. long. Floral bracts small, infundibuliform, acute, spreading. Flowers relatively large for the genus, apparently purplish. Sepals 3-nerved, submembranaceous, ciliate and very minutely pubescent within. Dorsal sepal shortly connate with the lateral sepals at the base, ovate or elliptic-ovate, subacute, about 6.9 mm. long and 4.1 mm. wide. Lateral sepals more or less deeply connate, obliquely suborbicular-ovate, obtuse to subacute, about 5.1 mm. long and 4.9 mm. wide. Petals much smaller than the sepals, suborbicular, broadly rounded to obtuse at the apex, 3-nerved, fleshy-thickened above, about 1.3 mm. long and 1.75 mm. wide. Lip very fleshy, smaller than the petals, ovate, truncate at base, with subcordate erect sides, obtuse, about 1 mm. long and 1 mm. wide in natural position; disc filled with a fleshy thickening which is bilobed near the base and concave toward the front. Column very short and fleshy, dilated upward, 3-lobed with a large ovate-triangular mid-lobe.

This species outwardly simulates the Peruvian *Stelis densiflora* Lindl., but lacks the 5-nerved sepals and triangular apex to the lip. It differs from the Bolivian *S.*

*campanulifera* Lindl. in having much larger flowers with more ovate sepals and a dissimilar lip.

PUNO: Prov. of Carabaya, between Ollachea and Pte. Ackopampa, at 3200 meters altitude, on cliffs, December 31, 1947, *C. Vargas 6981* (TYPE in Herb. Ames No. 65207).

***Stelis rhombilabia* C. Schweinfurth sp. nov.**

Herba major, saxicola. Caules approximati, duo vel tres ut videtur, vaginis duabus vel tribus tubulatis conspicuis tecti. Folium unicum, conspicue petiolatum; lamina elliptica vel oblongo-ovata, obtusa vel subacuta, basi late cuneata vel subrotundata. Racemi tres vel quatuor, folium multo excedentes, dense multiflori. Flores parvi, secundi ut videtur, valde bilabiati. Sepala trinervia, intus dense breviter pubescentia. Sepalum dorsale ovatum, breviter acuminatum. Sepala lateralina in laminam valde concavam suborbiculari-ovatam omnino connata. Petala multo minora, concava, suborbicularia, supra late rotundata et incrassata. Labellum sepalis subaequale, ovato-rhombicum; discus maxima pro parte callo carnosio arcuato occupatus.

Plant rather large, 30 cm. or more tall. Roots fibrous, filiform, glabrous, very numerous. Rhizome missing in our specimen. Stems approximate, in pairs or threes, about 13–19 cm. long, clothed with two or three loose tubular sheaths of which the uppermost and much the largest is sometimes produced into an imperfect leaf-blade. Leaf solitary, erect, petioled, 11.7–14.8 cm. long; lamina elliptic or oblong-ovate, obtuse or subacute with a minutely tridenticulate apex, shortly cuneate to subrounded at the base, chartaceous, many-nerved, about 10–12.6 cm. long, 3.7–5 cm. wide; petiole prominent, sulcate, about 2.2 cm. or less long. Racemes three or four, much surpassing the leaf, suberect, densely many-flowered (loose at the base), 17.7–30.2 cm. long, subtended by a narrow acute spathe about 1.5 cm. long.

Floral bracts very small, shallowly infundibuliform, spreading, apiculate. Flowers small, apparently secund, strongly bilabiate, ringent. Sepals 3-nerved, tubular-concave, densely short-pubescent within. Dorsal sepal ovate, short-acuminate, rather fleshy, very shortly connate at base with the lateral sepals, about 4 mm. long and 2 mm. wide when expanded. Lateral sepals entirely connate into a suborbicular-ovate deeply concave lamina which is 6-nerved, bicarinate, about 3-3.4 mm. long, and 3 mm. or more wide when expanded, thinner than the dorsal sepal. Petals much smaller than the sepals, concave, suborbicular when expanded, fleshy-thickened and broadly rounded above, 3-nerved, produced into a subapical blunt horn on the outer surface, about 0.6 mm. long and 0.75 mm. wide. Lip subequalling the petals, ovate-rhombic, sessile, obtuse, broadly cuneate at the base, apparently lightly trilobulate in the middle but entire when spread out, about 0.6 mm. long and 0.75 mm. wide; disc with the entire central portion occupied by a very fleshy arched callus surrounding the concave apical part. Column minute, strongly dilated and trilobulate above.

This species differs from the Ecuadorian *Stelis nutans* Lindl. in having conspicuous cauline sheaths, spreading floral bracts and a dissimilar lip.

Cuzco: Prov. of Urubamba, between kil. 97 and 108, F.C.C., on rocks at 2200 meters altitude, flowers yellow, May 16, 1943, *C. Vargas 3413* (TYPE in Herb. Ames No. 65211).

***Stelis triangulisepala* C. Schweinfurth sp. nov.**

Herba parva, caespitosa, epiphytica. Rhizoma abbreviatum. Caules filiformes, vaginis arcte tubulatis juventute obtecti. Folium unicum, erectum, inconspicue petiolatum; lamina anguste elliptico-oblonga vel oblanceolato-oblonga, subacuta, infra sensim angustata. Racemi singuli vel plures, erecti vel diffusi, folium plusminusve



superantes, laxe pluriflori. Bracteae conspicuae, atropurpureae. Flores pro planta magni, glabri, plani. Sepala late triangulari-ovata, obtusa vel subacuta, tri- vel quadrinervia. Petala multo minora, suborbiculari-ovata, valde carnosae. Labellum petalis minus, ovato-semiorbiculare, apice obtusum vel rotundatum, concavum, mediana cum carina transversa bilobata. Columna generis.

Plant small, caespitose, up to 12.3 cm. high to the tip of a raceme. Rhizome abbreviated. Roots fibrous, filiform, glabrous. Stems very slender, 1-leaved at the apex, about 3.6 cm. or less tall, concealed by three close tubular sheaths which are imbricating, dark or maculate and evanescent. Leaf erect, indistinctly petioled, 3.2–6.1 cm. long, 3.5–9 mm. wide; lamina elliptic-oblong or oblanceolate-oblong, minutely tridenticulate at the subacute apex, gradually cuneate below, chartaceous, up to 5.3 cm. long. Racemes axillary, one to nine, more or less surpassing the leaf, erect to arcuate or diffuse, loosely 4- to 13-flowered above, about 10 cm. or less long. Floral bracts infundibuliform, acuminate, widely spreading, apparently blackish purple. Flowers large for the plant, apparently flat, rounded-triangular in outline, pale greenish white, glabrous, with the sepals deeply connate below. Dorsal sepal triangular-ovate, obtuse or subacute, 3- or 4-nerved, about 4.1 mm. long and slightly wider near the base of the free portion. Lateral sepals closely similar to the dorsal sepal but slightly shorter, suboblique, 3- or 4-nerved, about 3.5 mm. long and 4.1 mm. wide across the free portion, strongly obtuse. Petals much smaller than the sepals, suborbicular-ovate, rounded above, 3-nerved, lightly cordate at base, with all except the basal part fleshy-thickened, about 1.3 mm. long and markedly wider below. Lip smaller than the petals, ovate-semiorbicular, obtuse to rounded at the apex, concave, with a prominent fleshy transverse bilobed callus

near the middle, about 0.75 mm. long and 1 mm. wide across the upcurved sides. Column characteristic of the genus, minute, apically 3-lobed with the mid-lobe much the largest.

This species is allied to *Stelis Hallii* Lindl., but lacks the fractiflex rachis of the raceme, the round-ovate sepals and the trilobulate petals of that concept. It is unusual in having very broad sepals which are sometimes 3-nerved and sometimes 4-nerved.

HUANCAVELICA: Prov. of Tayacaja, Ampurco woods, between Salcabamba and Surcubamba, epiphyte on mossy tree, at 2900 meters altitude, January 15, 1939, *H.E. Stork and O.B. Horton 10425* (TYPE in Herb. Field Mus. No. 1051159).

***Stelis triseta* Lindl. var. *pardipes* (Reichb.f.) C. Schweinfurth comb. nov.**

*Stelis pardipes* Reichenbach filius Beitr. Orch. Centr.-Am. (1866) 96.

The species described as *Stelis triseta* from Bolivia, and lately detected in Peru, was noted as having proliferating stems; whereas the concept *Stelis pardipes*, described later from Costa Rica and also occurring in Peru, has almost uniformly simple stems. A photograph of the type collection of *S. triseta*, however, shows two plants, one proliferous and the other with simple stems. The Peruvian collections recently identified as this species have uniformly proliferous stems. On the other hand, three Costa Rican specimens of *S. pardipes* (*Standley 33180, 33235, 37751*) show proliferating stems.

*Stelis triseta* has acute or subacute leaves with an abruptly short-cuneate base. *S. pardipes*, a variable plant represented in the Ames Herbarium by a large number of collections, commonly has obtuse leaves with a gradually cuneate base and either strict or lax racemes. It may, however, have acute leaves.

The flowers of *Stelis triseta* appear to be an exact

match morphologically with those of *S. pardipes*, but differ in color. The Peruvian collections referred to *S. triseta* are noted as having white and dark pink or whitish yellow flowers, whereas those of *S. pardipes* are usually described as greenish wine-color, though rarely yellowish.

It seems apparent that these two concepts cannot be upheld as separate species. *Stelis triseta* is characterized by commonly proliferating stems, acute or subacute leaves that are short-cuneate at the base, and white and pink or whitish yellow flowers. The second concept, here designated as var. *pardipes*, has usually simple stems, obtuse leaves that are more or less gradually cuneate at the base, and flowers that are usually green or green and red to purple.

Another concept which is surely to be regarded as closely related to *Stelis triseta* is the Ecuadorian *Stelis pugiunculi* Lindl., distinguished by narrower linear or linear-lanceolate leaves and acute petals.

### **Stelis uninervia** *C. Schweinfurth sp. nov.*

Herba mediocris, gracilis, saxicola. Rhizoma abbreviatum ut videtur. Caules caespitosi, gracillimi, vaginis tubulatis arctissimis obtecti, unifoliati. Folium breviter petiolatum; lamina anguste elliptico-oblonga, obtusa infra cuneata. Racemi numerosi, plusminusve stricti, subdense multiflori. Flores perparvi, membranacei, glabri. Sepala persimilia, ovata, acuta, conspicue uninervia. Petala multo minora, obovato-ovalia, subacuta, uninervia. Labellum petalis paulo majus, valde concavum, suborbiculari-ovatum, acutum. Columna comparate conspicua, e basi gracili valde clavato-dilatata.

Plant medium-sized, slender. Rhizome apparently abbreviated. Roots fibrous, filiform, glabrous, numerous. Stems caespitose, sometimes in pairs enveloped at the base by two or more imbricating scarious sheaths, very



slender, 1-leaved at the apex, 11.5–13.7 cm. long, with about three very close tubular sheaths of which the uppermost is elongate and separated from the others. Leaf erect-ascending, shortly petioled, about 9.3–10.3 cm. long; lamina narrowly elliptic-oblong, obtuse, shortly cuneate at the base, subcoriaceous, about 9 cm. long and 1.6 cm. wide. Racemes fascicled, strict or spreading, subequaling or surpassing the leaf, 14–16 in number, about 7.5–15 cm. long, subdensely many-flowered. Floral bracts inconspicuous, infundibuliform, acute, scarious, spreading. Flowers very small, either distichous or secund, glabrous. Sepals connate at the base, membranaceous. Dorsal sepal ovate, sharply acute, 1-nerved with very short indistinct lateral nerves near the base, about 2 mm. long and 1.2 mm. wide. Lateral sepals closely similar, slightly oblique. Petals much smaller, obovate-oval, subacute with a thickened apex, 1-nerved, about 1 mm. long. Lip slightly larger than the petals, strongly concave, subsessile, suborbicular-ovate when expanded, sharply acute, 3-nerved, lightly retuse on each side in front, about 1.2 mm. long and 1.1 mm. wide, lightly transverse-thickened near the base. Column relatively prominent, strongly clavate from a slender base, nearly as long as the petals.

This species appears to be allied to the Bolivian *Stelis euspatha* Reichb.f., but has very different petals and lip.

Cuzco: Prov. of Quispicanchis, Hda. Itio, Marcapata, at 2000 meters altitude, in sunny rocky places, perianth pale yellowish white, January 27, 1943, *C. Vargas 3116* (TYPE in Herb. Ames No. 65209).

**Masdevallia grandiflora** *C. Schweinfurth sp. nov.*

Herba epiphytica, caespitosa, parva, cum flore comparate magno. Caules approximati, breves, vaginis duabus tubulatis nigris omnino tecti. Folium unicum, erectum, petiolatum; lamina linearis vel elliptico-linearis. Inflorescentia uniflora, quam folium conspicue brevior. Flos

nutans, membranaceus, pro planta grandis. Sepala basi in tubum campanulatum connata. Sepalum dorsale basi ovatum, longe caudatum. Sepala lateralibus basi ovato-vel triangulari-lanceolata, longe caudata. Petala perparva, in circuitu oblonga, apice truncato-bilobulato, prope basim cum dente conspicuo. Labellum simplex, oblan- ceolato-oblongum, apice late obtusum, basi cordatum. Columna petala aequans, leviter arcuata, apice alata.

Plant epiphytic, caespitose, small, but with relatively large flowers, up to 10 cm. tall. Roots fibrous, numerous, glabrous. Stems approximate, short, sometimes with a decumbent base, about 1.8 cm. or less long, entirely or mostly concealed by two tubular sheaths which are blackish and imbricating. Leaf solitary, erect, petioled, about 6.9 cm. or less long; lamina linear or elliptic-linear, subacute with a minutely tridenticulate apex, very gradually narrowed below, coriaceous, with the mid-nerve prominent beneath, about 5.5 cm. long, up to 5.5 mm. wide; petiole slender, sulcate, blackish. Inflorescences solitary, 1-flowered, distinctly shorter than the leaf; peduncle filiform and blackish below, slightly dilated and green above, up to 5 cm. long, suberect; pedicellate ovary blackish and arcuate-recurved above, distinctly surpassing the tubular floral bract. Flower nodding, white, large for the plant but small for the genus. Sepals membranaceous, connate below into a campanulate tube which is 5–6.5 mm. long. Dorsal sepal (free part) consisting of a short rather broad basal portion and a long tail or cauda, about 3.5 cm. or less long; basal portion concave, ovate, 3-nerved, about 3 mm. long; tail filiform, relatively elongate. Lateral sepals similar to the dorsal sepal, about 3.75 cm. long with a short basal portion and an elongate tail; basal portion ovate- or triangular-lanceolate, long-acuminate, about 8.9 mm. long, slightly oblique, 3-nerved, gradually passing into the tail. Petals very small,

obliquely oblong in outline, about 3.5 mm. long, obliquely bilobulate at the abruptly truncate apex; lower portion (about one third) unguiculate-narrowed; upper portion oblong-subquadrate with a short decurved tooth (having an intramarginal keel) at the base on the anterior margin. Lip simple, oblong to oblanceolate-oblong, broadly obtuse at the apex, cordate at the base, somewhat thickened above, 3-nerved with the mid-nerve clavate at the tip, about 3.8 mm. long in greatest length and 1.4 mm. wide above the middle; disc with a pair of indistinct keels through the anterior half. Column about as long as the petals, lightly arcuate, terminating in a denticulate wing.

This species seems to be nearly allied to the Ecuadorian *Masdevallia filamentosa* Kränzl., but has shorter leaves, shorter sepaline tails and dissimilar larger petals.

CUZCO: Prov. of Paucartambo, San Pedro to Santa Isabel, at 1350 meters altitude, on old tree trunk, December 5, 1947, *C. Vargas* 006778 (TYPE in Herb. Ames No. 64894).

#### EXPLANATION OF THE ILLUSTRATION

PLATE I. *POGONIA VARGASII* C. Schweinfurth. 1, plants, one fourth natural size. 2, flower from side, natural position, three fourths natural size. 3, lateral sepal, three fourths natural size. 4, dorsal sepal, three fourths natural size. 5, petal, three fourths natural size. 6, lip, expanded, three fourths natural size. 7, column with anther, three quarters view, natural size.

Drawn by DOROTHY H. MARSH





POGONIA  
*Vargasii*  
C. Schweinf.

## EXPLANATION OF THE ILLUSTRATION

PLATE II. ALTENSTEINIA ELLIPTICA *C. Schweinfurth*.  
1, plant, four fifths natural size. 2, flower, three times natural size. 3, dorsal sepal, four times natural size. 4, petal, four times natural size. 5, lateral sepal, four times natural size. 6, lip, partially expanded, four times natural size. 7, column and summit of ovary, eight times natural size.

*Drawn by* GORDON W. DILLON

# ALTENSTEINIA

*elliptica*

C. Schweinf.





### EXPLANATION OF THE ILLUSTRATION

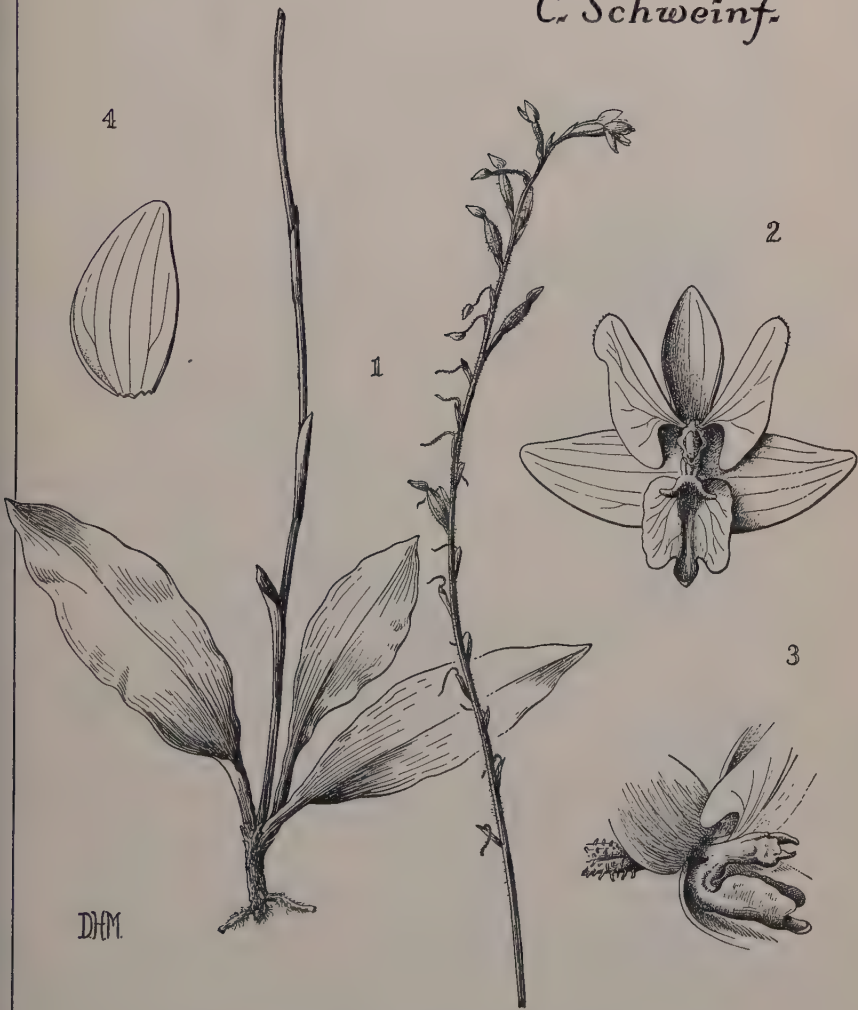
PLATE III. PONTIEVA BICORNUTA *C. Schweinfurth*.  
1, plant, one half natural size. 2, flower, expanded, three times natural size. 3, column and lip from side, natural position, three times natural size. 4, lateral sepal, three and one half times natural size.

*Drawn by* DOROTHY H. MARSH

PONTHIEVA

*bicornuta*

C. Schweinf.

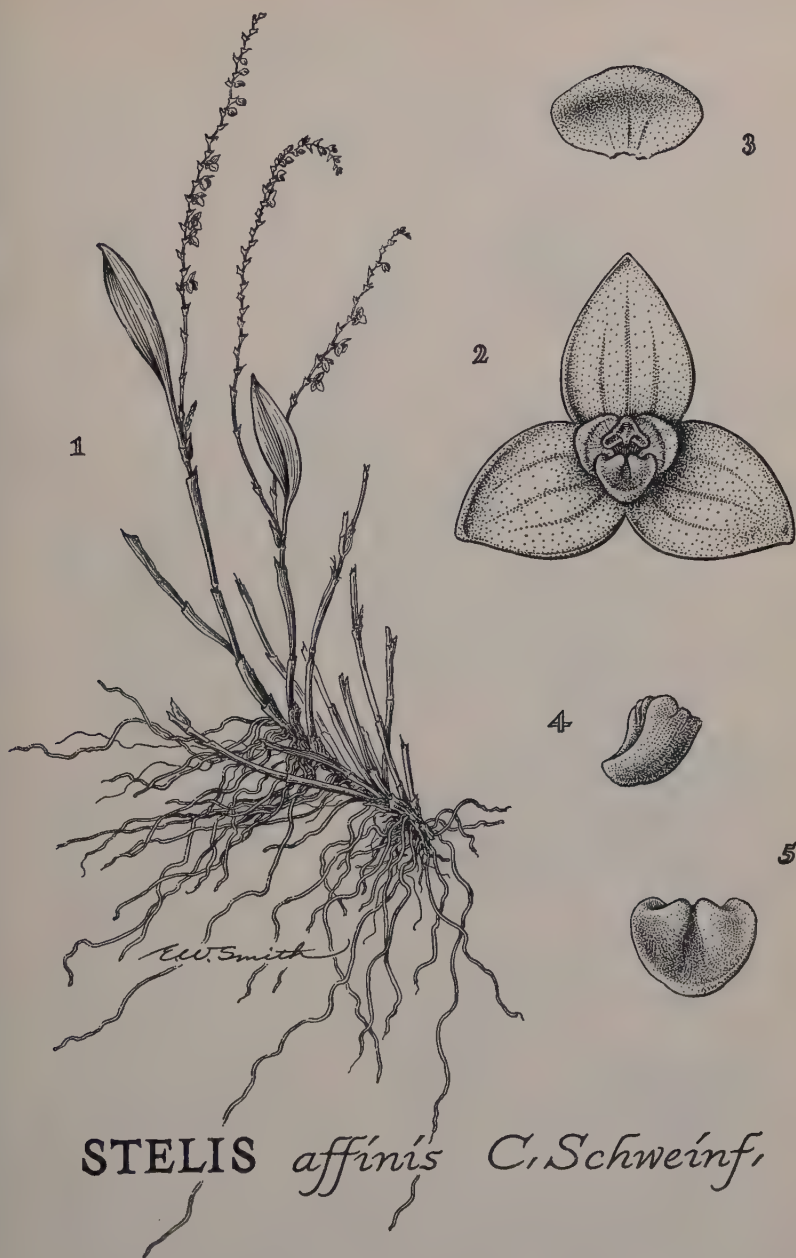


#### EXPLANATION OF THE ILLUSTRATION

PLATE IV. *STELIS AFFINIS C. Schweinfurth.* 1, plant, two thirds natural size. 2, flower from front, ten times natural size. 3, petal, twenty times natural size. 4, lip from side, twenty times natural size. 5, lip from front, twenty times natural size.

*Drawn by* ELMER W. SMITH





**STELIS** *affinis* C. Schweinf.

## EXPLANATION OF THE ILLUSTRATION

PLATE V. *STELIS ASCENSOR* *C. Schweinfurth*. 1, plant, two thirds natural size. 2, flower from side, natural position, about four times natural size. 3, flower, expanded, from front, eight times natural size. 4, petal, twenty times natural size. 5, lip from front, twenty times natural size. 6, lip from side, twenty times natural size.

*Drawn by* ELMER W. SMITH

STELIS

*ascensor*  
*C. Schweinf.*





## EXPLANATION OF THE ILLUSTRATION

PLATE VI. *STELIS BREVIACEMA C. Schœnfeldt*. 1, plant, two thirds natural size. 2, flower from front, ten times natural size. 3, petal, sixteen times natural size. 4, lip from front, sixteen times natural size. 5, lip from side, sixteen times natural size.

*Drawn by* ELMER W. SMITH

STELIS *breviracema*  
C. Schweinfurth



## EXPLANATION OF THE ILLUSTRATION

PLATE VII. *STELIS CURVICARINA C. Schweinfurth*. 1, plant, one half natural size. 2, flower, three quarters view, eight times natural size. 3, petal, twenty times natural size. 4, lip from front, thirty times natural size. 5, lip from side, thirty times natural size.

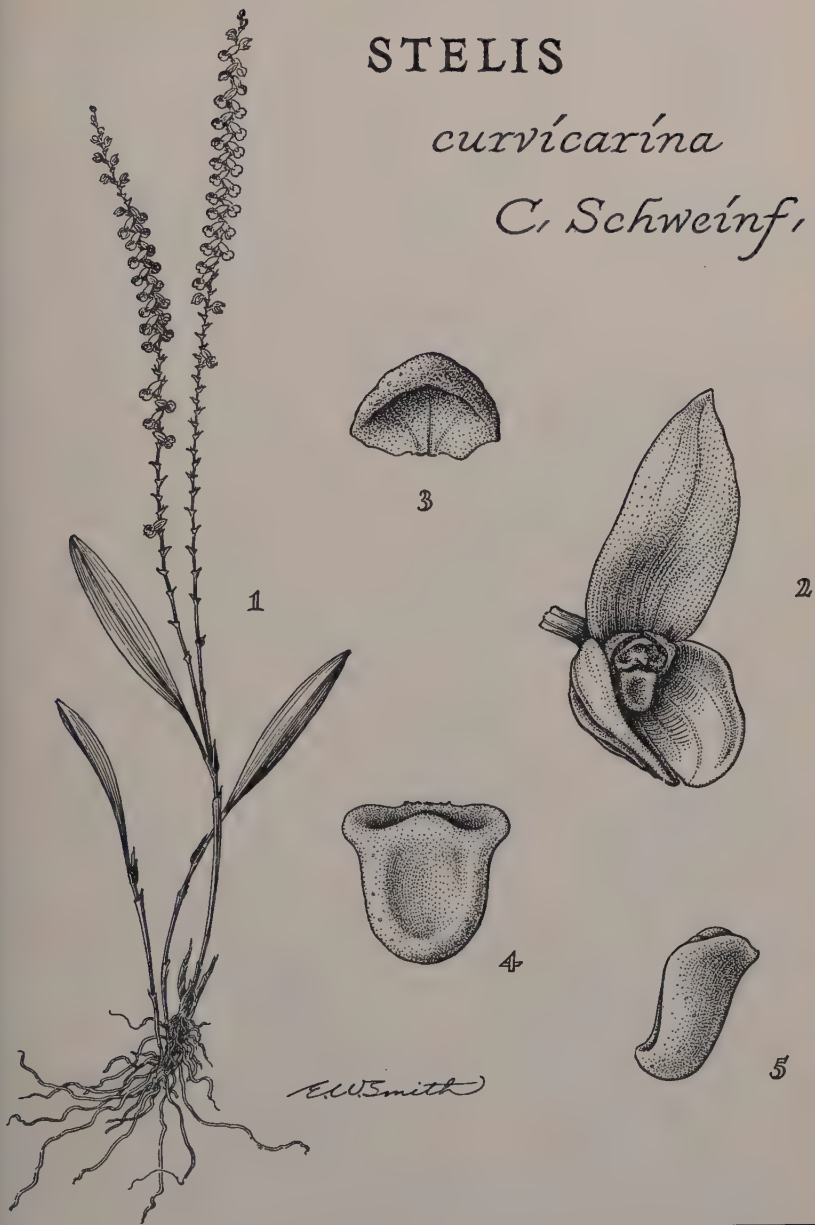
*Drawn by* ELMER W. SMITH



STELIS

*curvīcarīna*

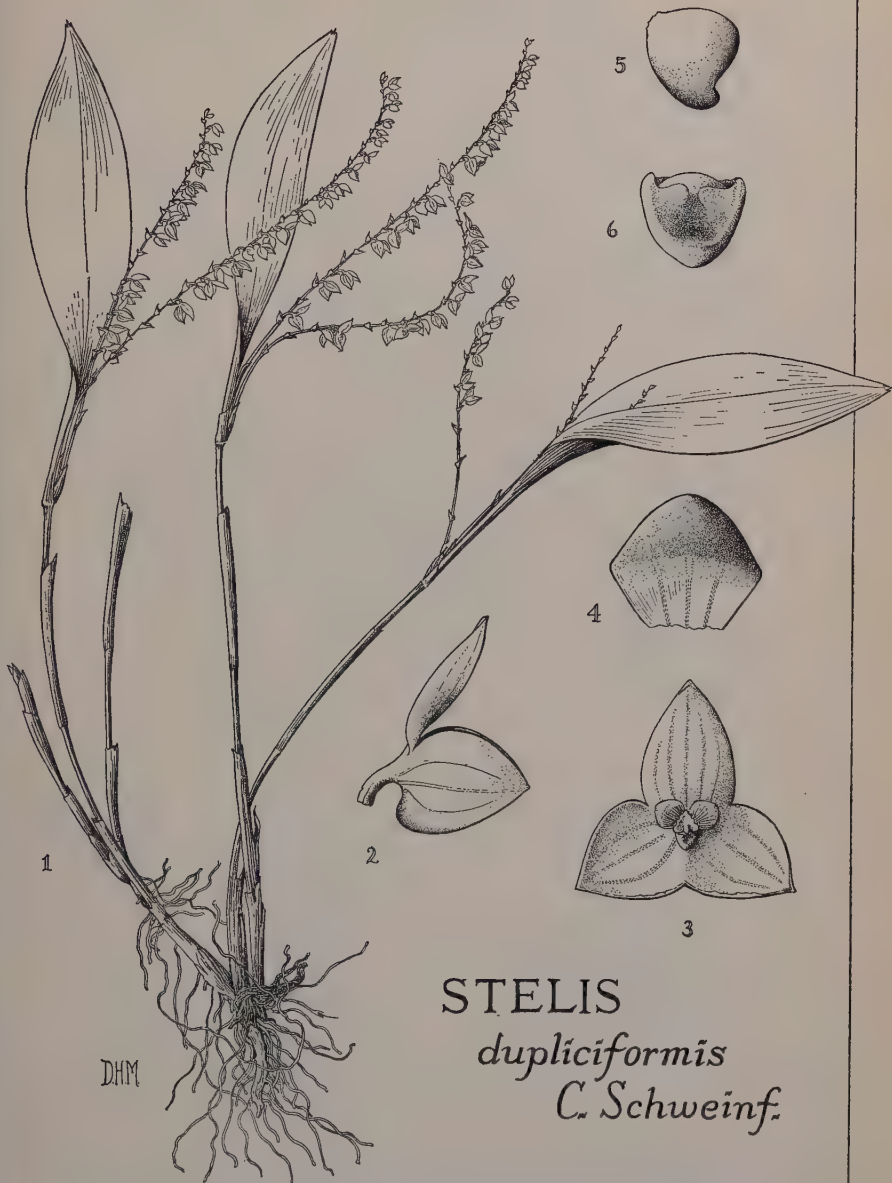
*C. Schweinf.*



## EXPLANATION OF THE ILLUSTRATION

PLATE VIII. *STELIS DUPLICIFORMIS* C. Schweinfurth.  
1, plant, one half natural size. 2, flower from side,  
three times natural size. 3, flower from front, ex-  
panded, three times natural size. 4, petal, ten  
times natural size. 5, lip from side, ten times natu-  
ral size. 6, lip from front, ten times natural size.

*Drawn by* DOROTHY H. MARSH



STELIS  
*dupliciformis*  
C. Schweinf.



## EXPLANATION OF THE ILLUSTRATION

PLATE IX. *STELIS GRACILISPICA* C. Schweinfurth. 1, plant, one half natural size. 2, lip from above, twenty-five times natural size. 3, flower from front, expanded, seven times natural size. 4, flower from side, natural position, seven times natural size. 5, petal, twenty times natural size.

*Drawn by* DOROTHY H. MARSH

STELIS

*gracilispica*

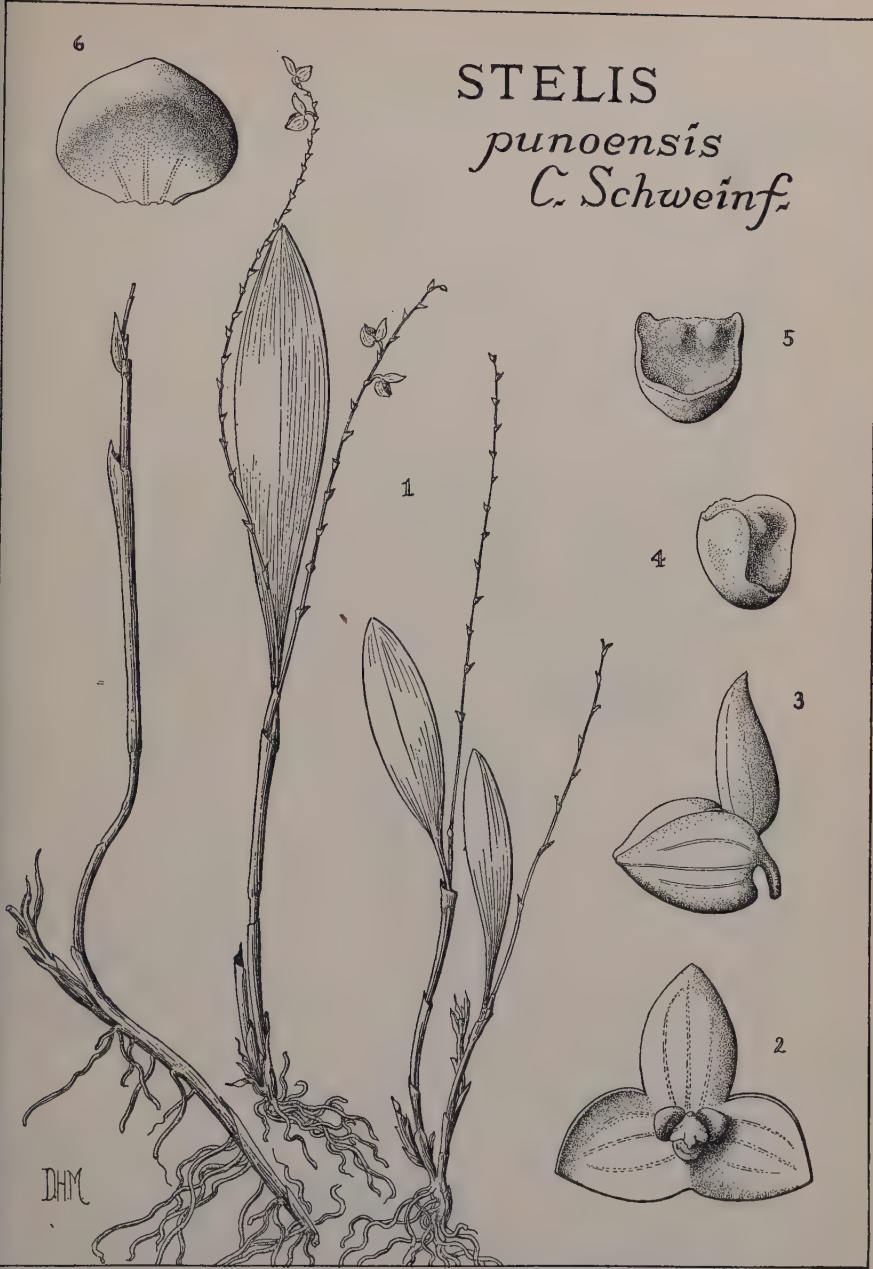
*C. Schweinf.*



## EXPLANATION OF THE ILLUSTRATION

PLATE X. *STELIS PUNOENSIS* C. Schweinfurth. 1, plants, three fourths natural size. 2, flower from front, three times natural size. 3, flower from side, three times natural size. 4, lip, three quarters view, fifteen times natural size. 5, lip from front, fifteen times natural size. 6, petal, fifteen times natural size.

*Drawn by* DOROTHY H. MARSH





## EXPLANATION OF THE ILLUSTRATION

PLATE XI. *STELIS RHOMBILABIA C. Schweinfurth.* 1, plant, three eighths natural size. 2, flower from front, expanded, six times natural size. 3, flower, three quarters view, six times natural size. 4, lip from front, twenty-five times natural size. 5, lip from above, fifteen times natural size. 6, petal, twenty-five times natural size.

*Drawn by* DOROTHY H. MARSH



STELIS  
*rhombilabia*  
C. Schweinf.

## EXPLANATION OF THE ILLUSTRATION

PLATE XII. *STELIS TRIANGULISEPALA* C. Schweinfurth. 1, plant, one and one eighth times natural size. 2, flower, five times natural size. 3, lip from side, twenty times natural size. 4, lip from front, twenty times natural size.

*Drawn by* DOROTHY H. MARSH

STELIS

*triangulisepala*  
C. Schweinf.





## EXPLANATION OF THE ILLUSTRATION

PLATE XIII. *STELIS UNINERVIA C. Schweinfurth.* 1, plant, one half natural size. 2, flower, twelve times natural size. 3, petal, twenty times natural size. 4, lip from the front and the side, twenty times natural size.

*Drawn by* ELMER W. SMITH

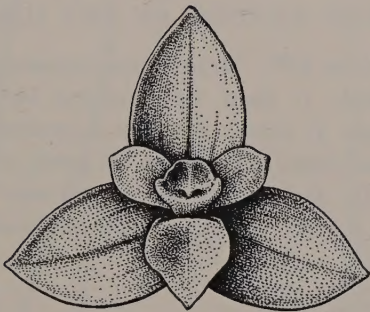
STELIS

*uninervia*

*C. Schweinf.*



1



2



3



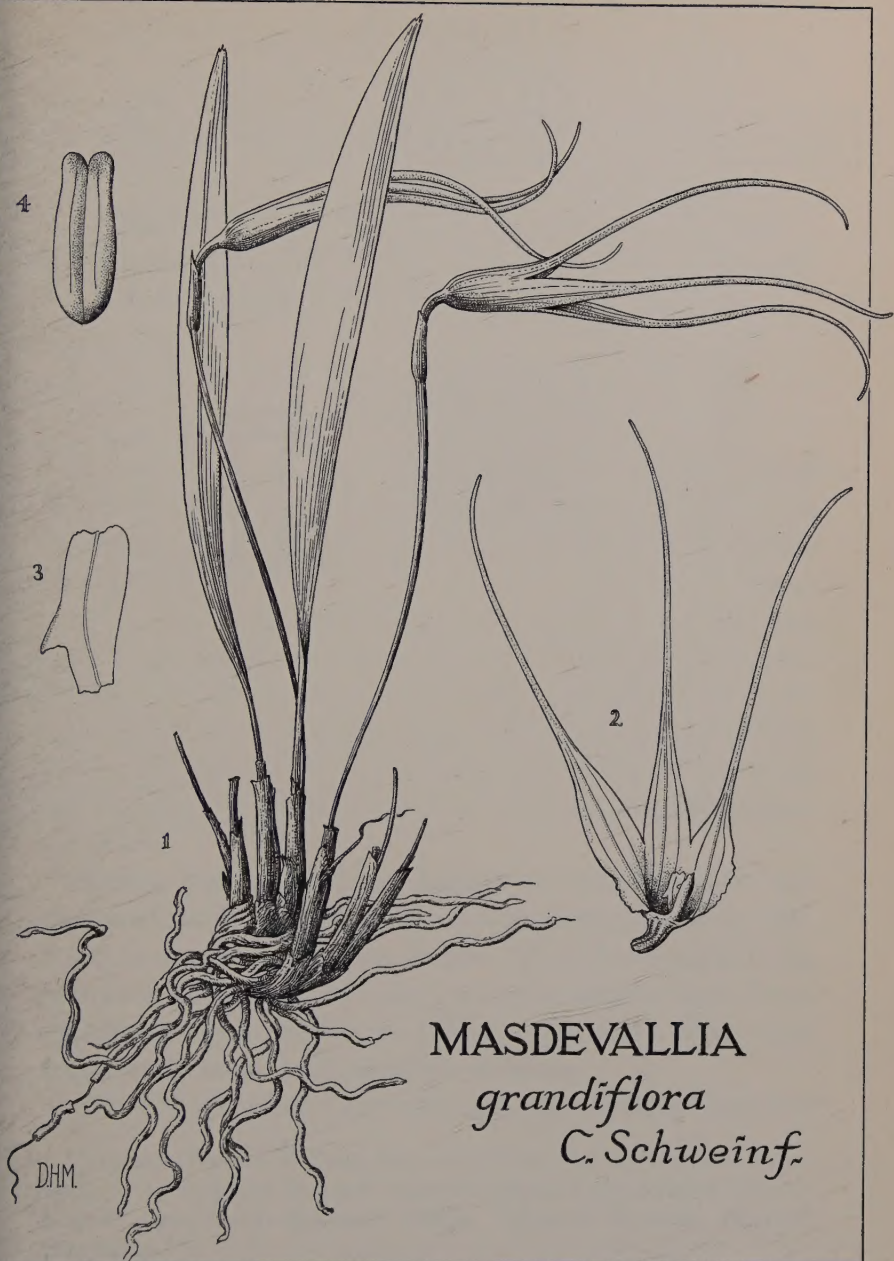
4



EXPLANATION OF THE ILLUSTRATION

PLATE XIV. MASDEVALLIA GRANDIFLORA *C. Schweinfurth*. 1, plant, one and one half times natural size. 2, flower, partially expanded, one and one half times natural size. 3, petal, six times natural size. 4, lip, six times natural size.

*Drawn by* DOROTHY H. MARSH



MASDEVALLIA  
*grandiflora*  
C. Schweinf.



